

SEQUENCE LISTING



<110> Awasthi, Sanjay
Singhal, Sharad S.

<120> Liposomes For Protection Against Toxic Compounds

<130> 124263-1006

<140> US 10/713,578

<141> 2003-11-13

<150> 60/425,814

<151> 2002-11-13

<160> 2

<170> PatentIn version 3.3

<210> 1

<211> 655

<212> PRT

<213> recombinant

<400> 1

Met Thr Glu Cys Phe Leu Pro Pro Thr Ser Ser Pro Ser Glu His Arg
1 5 10 15

Arg Val Glu His Gly Ser Gly Leu Thr Arg Thr Pro Ser Ser Glu Glu
20 25 30

Ile Ser Pro Thr Lys Phe Pro Gly Leu Tyr Arg Thr Gly Glu Pro Ser
35 40 45

Pro Pro His Asp Ile Leu His Glu Pro Pro Asp Tyr Val Ser Asp Asp
50 55 60

Glu Lys Asp His Gly Lys Lys Lys Gly Lys Phe Lys Lys Lys Glu Lys
65 70 75 80

Arg Thr Glu Gly Tyr Ala Ala Phe Gln Glu Asp Ser Ser Gly Asp Glu
85 90 95

Ala Glu Ser Pro Ser Lys Met Lys Arg Ser Lys Gly Ile His Val Phe
100 105 110

Lys Lys Pro Ser Phe Ser Lys Lys Lys Glu Lys Asp Phe Lys Ile Lys
115 120 125

Glu Lys Pro Lys Glu Glu Lys His Lys Glu Glu Lys His Lys Glu Glu
130 135 140

Lys His Lys Glu Lys Lys Ser Lys Asp Leu Thr Ala Ala Asp Val Val
145 150 155 160

Lys Gln Trp Lys Glu Lys Lys Lys Lys Lys Lys Pro Ile Gln Glu Pro
165 170 175

Glu Val Pro Gln Ile Asp Val Pro Asn Leu Lys Pro Ile Phe Gly Ile
180 185 190

Pro Leu Ala Asp Ala Val Glu Arg Thr Met Met Tyr Asp Gly Ile Arg
195 200 205

Leu Pro Ala Val Phe Arg Glu Cys Ile Asp Tyr Val Glu Lys Tyr Gly
210 215 220

Met Lys Cys Glu Gly Ile Tyr Arg Val Ser Gly Ile Lys Ser Lys Val
225 230 235 240

Asp Glu Leu Lys Ala Ala Tyr Asp Arg Glu Glu Ser Thr Asn Leu Lys
245 250 255

Asp Tyr Glu Pro Asn Thr Val Ala Ser Leu Leu Lys Gln Tyr Leu Arg
260 265 270

Asp Leu Pro Glu Asn Leu Leu Thr Lys Glu Leu Met Pro Arg Phe Glu
275 280 285

Glu Ala Cys Gly Arg Thr Thr Glu Thr Glu Lys Val Gln Glu Phe Gln
290 295 300

Arg Leu Leu Lys Arg Leu Pro Glu Cys Asn Tyr Leu Leu Ile Ser Trp
305 310 315 320

Leu Ile Val His Met Asp His Val Ile Ala Lys Glu Leu Glu Thr Lys
325 330 335

Met Asn Ile Gln Asn Ile Ser Ile Val Leu Ser Pro Thr Val Gln Ile
340 345 350

Ser Asn Arg Val Leu Tyr Val Phe Phe Thr His Val Gln Glu Leu Phe
355 360 365

Gly Asn Val Val Leu Lys Gln Val Met Lys Pro Leu Arg Trp Ser Asn
370 375 380

Met Ala Thr Met Pro Thr Leu Pro Glu Thr Gln Ala Gly Ile Lys Glu
385 390 395 400

Glu Ile Arg Arg Gln Glu Phe Leu Leu Asn Cys Leu His Arg Asp Leu
405 410 415

Gln Gly Gly Ile Lys Asp Leu Ser Lys Glu Lys Arg Leu Trp Glu Val
420 425 430

Gln Arg Ile Leu Thr Ala Leu Lys Arg Lys Leu Arg Glu Ala Lys Arg
435 440 445

Gln Glu Cys Glu Thr Lys Ile Ala Gln Glu Ile Ala Ser Leu Ser Lys
450 455 460

Glu Asp Val Ser Lys Glu Glu Met Asn Glu Asn Lys Glu Val Ile Asn
465 470 475 480

Ile Leu Leu Ala Gln Glu Asn Glu Ile Leu Thr Glu Gln Glu Glu Leu
485 490 495

Leu Ala Asn Glu Gln Phe Leu Arg Arg Gln Ile Ala Ser Glu Lys Glu
500 505 510

Glu Ile Glu Arg Leu Arg Ala Glu Ile Ala Glu Ile Gln Ser Arg Gln
515 520 525

Gln His Gly Arg Ser Glu Thr Glu Glu Tyr Ser Ser Glu Ser Glu Ser
530 535 540

Glu Ser Glu Asp Glu Glu Glu Leu Gln Ile Ile Leu Glu Asp Leu Gln
545 550 555 560

Arg Gln Asn Glu Glu Leu Glu Ile Lys Asn Asn His Leu Asn Gln Ala
565 570 575

Ile His Glu Glu Arg Glu Ala Ile Ile Glu Leu Arg Val Gln Leu Arg

580

585

590

Leu Leu Gln Met Gln Arg Ala Lys Ala Glu Gln Gln Ala Gln Glu Asp
 595 600 605

Glu Glu Pro Glu Trp Arg Gly Gly Ala Val Gln Pro Pro Arg Asp Gly
 610 615 620

Val Leu Glu Pro Lys Ala Ala Lys Glu Gln Pro Lys Ala Gly Lys Glu
 625 630 635 640

Pro Ala Lys Pro Ser Pro Ser Arg Asp Arg Lys Glu Thr Ser Ile
 645 650 655

<210> 2
 <211> 1974
 <212> DNA
 <213> human bone marrow

<400> 2
 atgactgagt gcttctgcc cccaccagc agccccagtg aacaccgcag ggtggagcat 60
 ggcagcgggc ttaccggac cccagctct gaagagatca gccctactaa gtttcttgga 120
 ttgtaccgca ctggcgagcc ctcacctccc catgacatcc tcatgagcct cctgatgtag 180
 tgtctgatga tgagaaagat catgggaaga aaaaagggaa atttaagaaa aaggaaaaga 240
 ggactgaagg ctatgcagcc tttcaggaag atagctctgg agatgaggca gaaagtcctt 300
 ctaaaatgaa gaggtccaag ggaatccatg ttttcaagaa gaagcccagc ttttctaaaa 360
 agaaggaaaa ggatttttaa ataaaagaga aacccaaaga agaaaagcat aaagaagaaa 420
 gcacaaagaa gaaaaacata aagagaagaa gtcaaaagac ttgacagcag ctgatgttgt 480
 taaacagtgg aaggaaaaga agaaaaagaa aaagccaatt caggagccag aggtgcctca 540
 gattgatgtt ccaaattctca aaccattttt tggaattcct ttggctgatg cagtagagag 600
 gaccatgatg tatgatggca ttcggctgcc agccgttttc cgtgaatgta tagattacgt 660
 agagaagtat ggcatgaagt gtgaaggcat ctacagagta tcaggaatta aatcaaaggt 720
 ggatgagcta aaagcagcct atgaccggga ggagtctaca aacttggaag actatgagcc 780
 taacactgta gccagtttgc tgaagcagta tttgcgagac cttccagaga atttgcttac 840
 caaagagctt atgccagat ttgaagaggc ttgtgggagg accacggaga ctgagaaagt 900
 gcaggaattc cagcgtttac tcaaagaact gccagaatgt aactatcttc tgatttcttg 960

gctcattgtg cacatggacc atgtcattgc aaaggaactg gaaacaaaaa tgaatataca	1020
gaacattttct atagtgtctca gcccaactgt gcagatcagc aatcgagtcc tgtatgtgtt	1080
tttcacacat gtgcaagaac tcttttgaaa tgtggtacta aagcaagtga tgaaacctct	1140
gcgatggtct aacatggcca cgatgccac gctgccagag acccaggcgg gcatcaagga	1200
ggagatcagg agacaggagt ttcttttgaa ttgtttacat cgagatctgc aggggtgggat	1260
aaaggatttg tctaaagaag aaagattatg ggaagtacaa agaattttga cagccctcaa	1320
aagaaaactg agagaagcta aaagacagga gtgtgaaacc aagattgcac aagagatagc	1380
cagtctttca aaagaggatg tttccaaaga agagatgaat gaaaatgaag aagttataaa	1440
tatttctctt gctcaggaga atgagatcct gactgaacag gaggagctcc tggccatgga	1500
gcagtttctg cgccggcaga ttgcctcaga aaaagaagag attgaacgcc tcagagctga	1560
gattgctgaa attcagagtc gccagcagca cggccgaagt gagactgagg agtactcttc	1620
cgagagcgag agcgagagtg aggatgagga ggagctgcag atcattctgg aagacttaca	1680
gagacagaac gaagagctgg aaataaagaa caatcatttg aatcaagcaa ttcatgagga	1740
gcgcgaggcc atcatcgagc tgcgcgtgca gctgcggctg ctccagatgc agcgagccaa	1800
ggccgagcag caggcgagg aggacgagga gcctgagtgg cgcgggggtg ccgtccagcc	1860
gccagagac ggcgtccttg agccaaaagc agctaaagag cagccaaagg caggcaagga	1920
gccggcaaag ccatcgccca gcagggatag gaaggagacg tccatctgad aasv	1974